



US005930179A

**United States Patent** [19]  
**Cha****Patent Number:** **5,930,179**  
**Date of Patent:** **Jul. 27, 1999****[54] PROGRAM CIRCUIT****[75] Inventor:** **Byeung Kwon Cha, Ichon-Shi, Rep. of Korea****[73] Assignee:** **Hyundai Electronics Industries, Co., Ltd., Kyungki, Rep. of Korea****[21] Appl. No.:** **08/882,835****[22] Filed:** **Jun. 26, 1997****[30] Foreign Application Priority Data**

Jun. 29, 1996 [KR] Rep. of Korea ..... 96-25547

**[51] Int. Cl.:** **G11C 7/00****[52] U.S. Cl.:** **365/189.07; 365/185.22****[58] Field of Search** **365/189.07, 201, 365/185.22****[56] References Cited****U.S. PATENT DOCUMENTS**4,811,294 3/1989 Kobayashi et al. ..... 365/189.07  
5,299,162 3/1994 Kim et al. ..... 365/201  
5,629,890 5/1997 Eng ..... 365/189.07**Primary Examiner—**Tan T. Nguyen**Attorney, Agent, or Firm—**Scott C. Harris, Esq.**[57] ABSTRACT**

The program circuit according to the present invention can apply a program voltage to the only memory cells which are not programmed during a re-programming operation, thus, the present invention can prevent a lowering of reliability of the memory cell due to a continued supply of a program bias voltage.

4 Claims, 1 Drawing Sheet

